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FILING DATE.

APPLICATION NUMBER: 60/461,094

FILING DATE: April 08, 2003

RELATED PCT APPLICATION NUMBER: PCT/US04/10712

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PROVISIONAL APPLICATION FOR PATENT COVER SHEET

This is a request for filing a PROVISIONAL APPLICATION FOR PATENT under 37 CFR 1.53(c).

Express Mail Label No.

EU 982362462 US

INVENTOR(S)					
Given Name (first and middle [if any])	Family Name or Surname	Residence (City and either State or Foreign Country)			
David Paul Brock Wayne	Brisco Watson	Duncan, Oklahoma Carrollton, Texas			
<input type="checkbox"/> Additional inventors are being named on the _____ separately numbered sheets attached hereto					
TITLE OF THE INVENTION (500 characters max)					
ACTUATOR ASSEMBLY TENSION					
Direct all correspondence to: CORRESPONDENCE ADDRESS					
<input type="checkbox"/> Customer Number		000027684		Place Customer Number Bar Code Label here	
OR		Type Customer Number here			
<input checked="" type="checkbox"/> Firm or Individual Name	Todd Mattingly				
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Address	Suite 4300				
City	Houston	State	TX	ZIP	77002-5012
Country	USA	Telephone	713-547-2301	Fax	713-236-5585
ENCLOSED APPLICATION PARTS (check all that apply)					
<input checked="" type="checkbox"/> Specification	Number of Pages	15	<input type="checkbox"/> CD(s), Number		
<input type="checkbox"/> Drawing(s)	Number of Sheets		<input checked="" type="checkbox"/> Other (specify)	Return Receipt Postcard	
<input type="checkbox"/> Application Data Sheet. See 37 CFR 1.76					
METHOD OF PAYMENT OF FILING FEES FOR THIS PROVISIONAL APPLICATION FOR PATENT					
<input type="checkbox"/>	Applicant claims small entity status. See 37 CFR 1.27.				FILING FEE AMOUNT (\$)
<input type="checkbox"/>	A check or money order is enclosed to cover the filing fees				
<input checked="" type="checkbox"/>	The Commissioner is hereby authorized to charge filing fees or credit any overpayment to Deposit Account Number:				08-1394
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The invention was made by an agency of the United States Government or under a contract with an agency of the United States Government.					
<input checked="" type="checkbox"/> No.					
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Respectfully submitted,

SIGNATURE

TYPED or PRINTED NAME Todd Mattingly

TELEPHONE 713-547-2301

Date 04/08/2003

REGISTRATION NO.
(if appropriate)
Docket Number:

40,298

EGT-03-03

USE ONLY FOR FILING A PROVISIONAL APPLICATION FOR PATENT

This collection of information is required by 37 CFR 1.51. The information is used by the public to file (and by the PTO to process) a provisional application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 8 hours to complete, including gathering, preparing, and submitting the complete provisional application to the PTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Washington, D.C. 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Box Provisional Application, Assistant Commissioner for Patents, Washington, D.C. 20231.

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DATE OF DEPOSIT: April 8, 2003

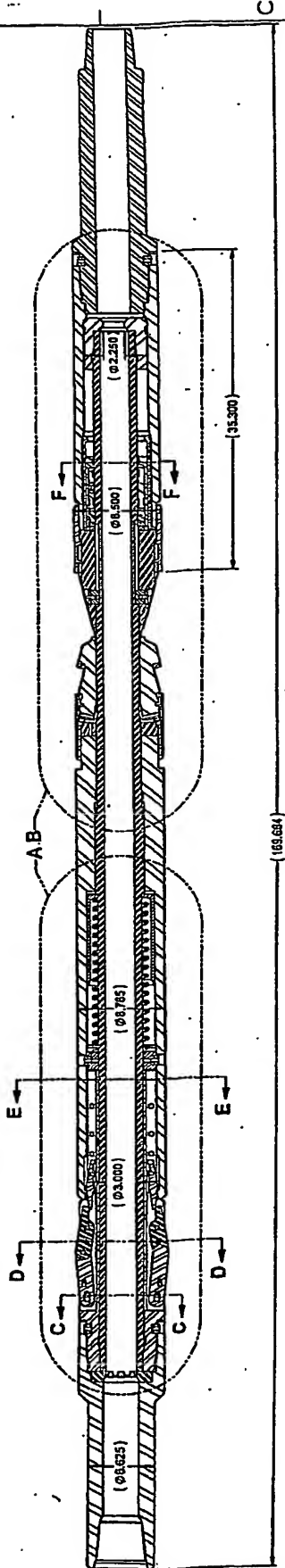
The Provisional Application for Patent Cover Sheet and the following fifteen (15) pages are being deposited with the U.S. Postal Service Express Mail Post Office to Addressee Service under 37 CFR §1.10 on the date indicated above and is addressed to: BOX PROVISIONAL PATENT APPLICATION, Commissioner for Patents, Washington, D.C. 20231

Vikki M. Meriwether

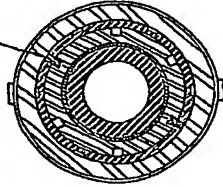
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Vikki M. Meriwether

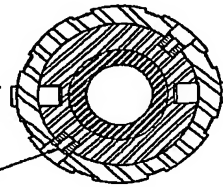
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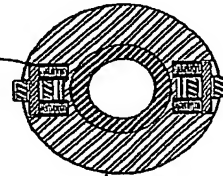
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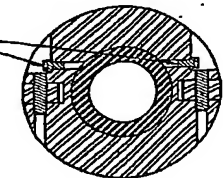
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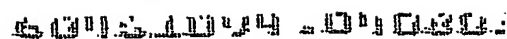
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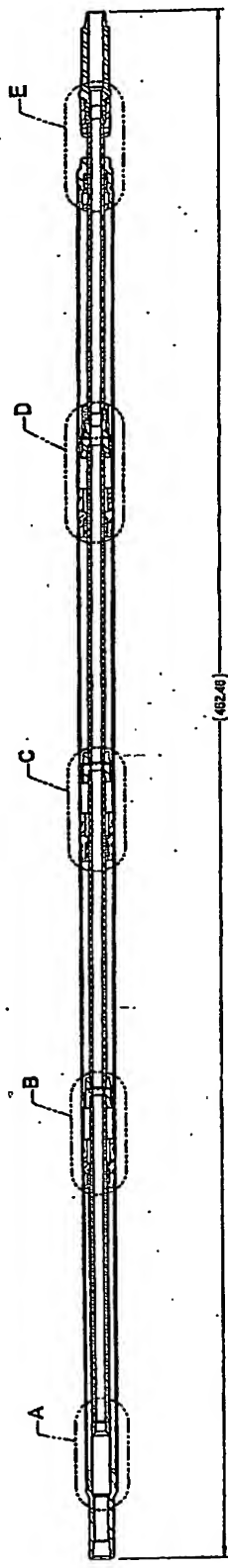
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TENSION ACTUATOR

Inventors: Brock Wayne Watson and David Paul Brisco

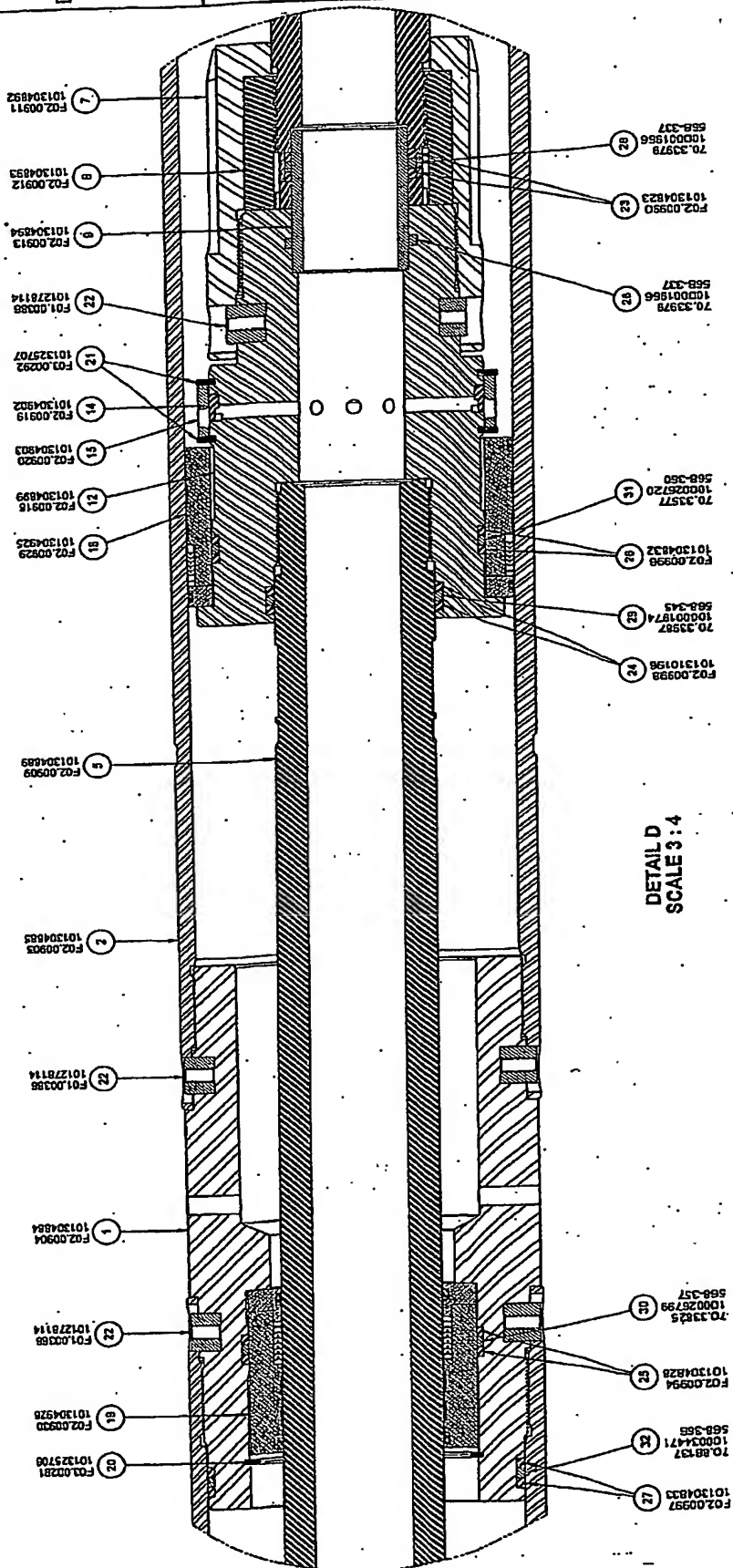
The tension actuator will be used in the monodiameter tool string to pull the cone upwards. The actuator will be used to form the bell section and the first part of the expanded casing because we cannot do the normal hydraulic expansion until the packer is set. The actuator will also be used if pressure integrity is lost in the casing below the cone. The actuator may also be used to expand the overlap section to reduce the expansion pressure in this high expansion force region.

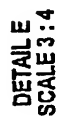
This tool will retract when pressure is applied and is extended by pulling on it.



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1.1

BALL GRIPPER

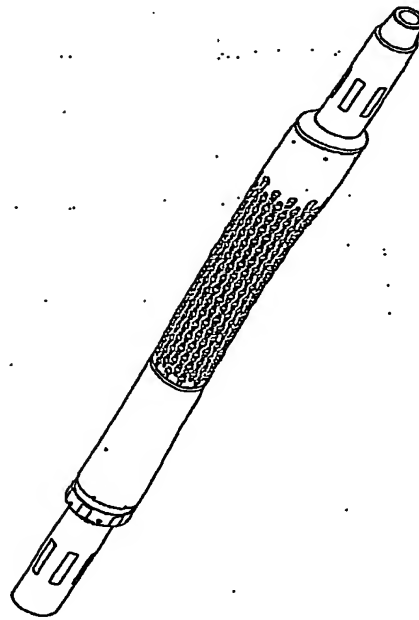
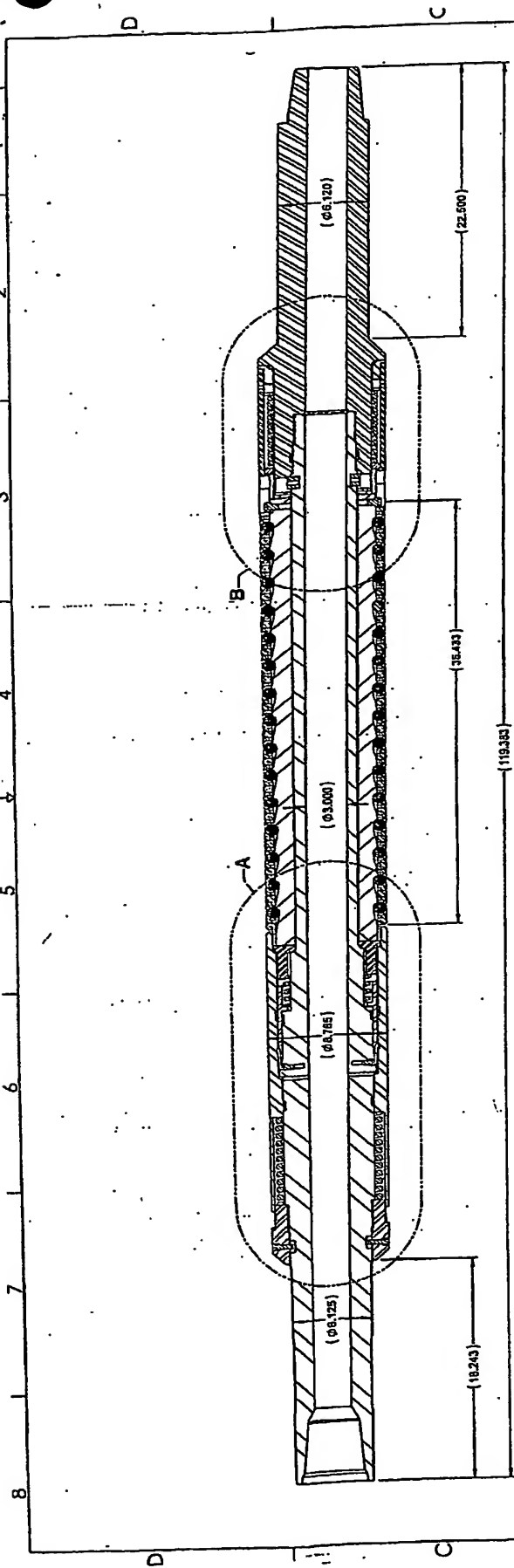
Inventors: David Paul Brisco & Brock Wayne Watson

This tool is used to grip the inside of casing. The gripping method uses balls or rollers that roll between the casing and a ramp until the force acting on the ball is enough to support the axial load applied by the tool string. For small forces the ball grips the casing by friction but at higher loading the ball will form small impressions in the casing that will provide a more positive support.

The tool contains two major springs. One spring tries to activate the tool while the other more powerful spring will try to deactivate a tool. Under normal conditions the balls are held inward by the larger spring and are inactive. When pressure is applied, a piston will move downward to release dogs, pressure will move another piston that will compress the larger spring so that the smaller spring can activate the tool by pushing the outer sleeve upwards. If pressure is released and the force acting on the tool is released, the balls will relax and the piston will move back in their original positions. The springs push the balls against the casing but they apply only a small force. Friction and the ramp cause the balls to be pressed hard against the casing. The tool can only grip in one direction because the ramp is only in one direction.

We chose a ball/roller gripping device because it does a minimum of damage to the casing when it is active and it can be dragged upwards under full pressure without gripping the casing.

The tool will normally be placed above the tension actuator in the mono-diameter tool string and is used to anchor the tension actuator during initial expansion, the overlap expansion, and anytime where pressure integrity of the casing is lost.



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